

2002

CITIZEN CO

21-02

2002



**EDENTON-CHOWAN
PLANNING AND INSPECTIONS DEPARTMENT**

P.O. Box 1030, Edenton, NC 27932
108 East King Street, Edenton, NC 27932
Phone 252-482-5618 FAX 252-482-5920



September 6, 2001

Mr. Frank Regulski
Bio-Comp
2116 Bio-Comp Drive
Edenton, NC 27932

Mr. Regulski:

The property at the above address is zoned Industrial. This type of business is permitted in this zoning district.

The setbacks for any new building from the property lines on this property are as follows:

25' from the front
10' from the sides & rear

If you have any more questions, please feel free to call me at the Edenton-Chowan Planning & Inspections office at 482-5618.

Sincerely,

Kent Pierce
Building Inspector

Grower: BioComp Inc.

Copies To:

2116-B BioComp Dr.
Edenton, NC 27932

Farm:

Chowan County



Waste Analysis Report

9/13/01

Sample Info.		Laboratory Results (parts per million unless otherwise noted)													
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C
A	Total	9190	422	2470	3895	877	662	520	43.6	41.9	11.8	11.0			568095
	IN - N														
	-NH ₄														
	-NO ₃														
	OR - N														
	Urea														
Waste Code:															
FCW															
Description:															
Composted Waste - Other															
Recommendations:															
Application Method															
Broadcast		N	P ₂ O ₅	K ₂ O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Li
		2.9	0.45	1.9	1.8	0.41	0.31	0.24	0.02	0.02	0.01	0.01			
Soil Incorp		3.6	0.56	2.1	2.3	0.51	0.39	0.30	0.03	0.02	0.01	0.01			
		The C:N ratio is very high. The waste product will be very slow to decompose. To speed mineralization or composting, blend with a material containing a very low C:N ratio to obtain an ideal ratio of 20-30.													

Soluble salt level is low. The compost can be used as a landscape soil or potting media without blending other materials to lower soluble salts. Additional fertilizer may be needed to supply required nutrients. Take a matching soil sample of the compost to further evaluate nutrient availability and pH.

Compost pH is below the ideal range for plant production. If the material will be used as a landscape or potting soil, blend other materials or add agricultural lime to increase pH to the desired range. Submit a matching soil sample for guidance on lime rate.

Sample Info.		Laboratory Results (parts per million unless otherwise noted)													
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C
B	Total	25329	3607	9364	18706	4072	2666	1698	93.9	48.5	13.1	38.1			252843
	IN - N														
	-NH ₄														
	-NO ₃														
	OR - N														
	Urea														
Waste Code:															
FCC															
Description:															
Composted Crop Residue															
Recommendations:															
Application Method															
Broadcast		N	P ₂ O ₅	K ₂ O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Li
		14.2	6.9	12.6	15.7	3.4	2.2	1.4	0.08	0.04	0.01	0.03			
Soil Incorp		17.7	8.7	14.2	19.6	4.3	2.8	1.8	0.10	0.05	0.01	0.04			
		Nitrogen is very high in relation to carbon (Low C:N Ratio). If the waste product is to be used as a raw material in composting, blend it with another material with a high C:N ratio. The C:N ratio should be 20-30 for ideal composting conditions.													

Soluble salt level is very high. The compost cannot be used as a landscape soil or potting media without blending other materials to lower soluble salts to an acceptable level. Very high soluble salts likely indicate very high nutrient availability. Take a matching soil sample to further evaluate pH and nutrient availability.

Soluble salt level is very high. The compost cannot be used as a landscape soil or potting media without blending other materials to lower soluble salts to an acceptable level. Very high soluble salts likely indicate very high nutrient availability. Take a matching soil sample to further evaluate pH and nutrient availability.

NC COMPOST PERMIT APPLICATION

DECEMBER 1, 2001

BIO-COMP, INC.



APPROVED
DIVISION OF SOLID WASTE MANAGEMENT
DATE 1/28/02 BY JK

Date: December 1, 2001

To: Ted Lyon, Environmental Supervisor, NCDENR

From: Dr. Frank Regulski, President, Bio-Comp, Inc.

Subject: Permit to operate a solid waste compost facility

.1402 General Provisions

- (a) Site composts pine bark, peanut hulls and cotton gin trash
- (b) Site does not compost any sludge or municipal waste
- (d) Site does not import any compost from outside North Carolina
- (e) Compost is not disposed.
- (f) Site is classified as a large type 2 facility receiving more than 1000 cubic yards of silvicultural waste and vegetative agricultural waste which are low in pathogens and physical contaminants and are handled so as to prevent development of contaminants or exposure to physical contaminants. Site occupies about 56 acres of land.

.1403 General Prohibitions

- (a) Site does not receive hazardous waste or asbestos containing waste
- (b) Site does not receive hazardous household waste
- (c) All compost produced is used to manufacture plant growing medium or sold as compost, therefore disposal is not necessary

.1404 Siting/Design Requirements

- (a)
 - (1) Site is not located in a flood plain as shown in the attached map.
 - (2) The following buffers exist between property lines and composting area: 200 ft on the north, 2,500 ft on the east, 550 ft on the south, 400 ft on the west.
 - (3) A 950 ft buffer exists between compost areas and the occupied trailer to the south.
 - (4) The area is served by county water therefore there are no wells.
 - (5) The nearest perennial stream is located 7 miles away from the site.
 - (6) The classification of the Albemarle Sound in this area is "SB" and there are no apparent restrictions to operating a compost facility in this watershed.
 - (7) Site is not located over a closed-out disposal area.
 - (8) There are no swales or berms that would restrict adequate access of fire fighting equipment.
 - (9)
 - (A) There are no wetlands or waters within a half mile or more from site, materials are confined to the site and there is no discharge of materials or fill materials into waters or wetlands
 - (B) Storm water is directed via ditches to an on-site collection pond designed for use by fire protection unit and does not cause any discharge into waters
 - (C) There is no non-point source pollution of waters for the above reasons.
- (10)
 - (A) The site does not contravene ground water standards.
 - (B) The site is located on a former airport runway; portions of the site used for waste receipt and storage, active composting, and curing are located on a 12-inch thick airport runway pad.
 - (C) Not applicable
 - (D) The finished product is stored on pallets on a 12-inch thick airport runway pad until shipped such that water does not collect around the base of the stored material.
 - (E) The 12-inch thick airport runway pad is not permeable.

(b) No alternate minimum buffers are required

(c)

- (1) The site is fenced and gated and does not allow uncontrolled public access
- (2) Compost is turned regularly to prevent anaerobic conditions thus minimizing odors.
- (3) Compost piles are located toward the interior of the property to minimize odors at the property boundary and there is a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side; odors are rare and do not travel beyond property boundaries.

.1405 Application Requirements

(b)

- (1) Site plan is attached
- (2) Letter from Edenton-Chowan Planning and Inspections Department is attached.
- (3) Site is located in an industrial park on a former airport runway. There is a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side. Site is not located in a flood plain. The following buffers exist between property lines and composting area: 200 ft on the north, 2,500 ft on the east, 550 ft on the south, 400 ft on the west. A 950 ft buffer exists between compost areas and the occupied trailer to the south. The area is served by county water therefore there are no wells. The nearest perennial stream is located 7 miles away from the site.

Site is not located over a closed-out disposal area. There are no swales or berms that would restrict adequate access of fire fighting equipment. There are no wetlands or waters within a half mile or more from site, materials are confined to the site and there is no discharge of materials into waters or wetlands. Storm water is directed to an on-site collection pond designed for use by fire protection unit and does not cause any discharge into waters. There is no non-point source pollution of waters for the above reasons. The site does not contravene ground water standards. Portions of the site used for waste receipt and storage, active composting, and curing are located on a 12-inch thick airport runway pad. The finished product is stored on pallets on a 12-inch thick airport runway pad until shipped, such that water does not collect around the base of the stored material. The 12-inch thick airport runway pad is not permeable.

(4)

(A) Pine bark, peanut hulls and cotton gin trash are obtained from sources in North Carolina and Virginia. Site currently receives about 20,000 cyd of pine bark, about 20,000 cyd of peanut hulls, and about 5,000 cyd of cotton gin trash per year.

(B) Site is located on a former airport runway which is used as the pad.

(5) Site plan attached

(6)

(A) Frank J. Regulski, President; Bio-Comp, Inc., 2116-B Bio-Comp Drive, Edenton, NC 27932

(B) The facility is designed to manufacture professional growing media for plants

(C) The personnel required to run the facility and their duties are as follows:

- a. Loader Operator-Mill: operate wheel loader, receive raw materials, operate hammermill.
- b. Loader Operator-Mixer/Production Line: load bins for mixer and packaging line, load bulk trucks.
- c. Mixer Operator: produce product and perform quality control.
- d. Bagger: operate packaging line.
- e. Palletizer: stack product on pallet
- f. Forklift Operator: load bins for mixer, receive raw materials, stage finished product for

shipment, load trucks.

g. Dispatcher: receive orders from customers, schedule production, arrange trucking for delivery of finished product.

h. Bookkeeper

(D) The schedule of operation is Monday through Friday from 7:30 am to 4:00 pm. Before opening the facilities are unlocked and machinery is started up. After closing, the machinery is shut down and prepared for the next day, and all facilities are locked.

(E) Not applicable

(F) During high wind, heavy rain, snow, freezing or other adverse conditions operations are shut down and personnel are given indoor work to do or are sent home until conditions improve.

(G) Site is located in an industrial park and has a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side such that noise and airborne particulates do not affect residential areas; employees are supplied with hearing protection and dust masks when needed. Odors are rare because compost piles are turned regularly and are generally confined to the composting area.

(H) Most of the compost is mixed with other components, including peat moss, lime, fertilizer, perlite, and/or vermiculite, to produce professional growing media for plants. Some is sold directly as finished compost. The finished product is shipped on flatbed trucks, dump trucks or pickup trucks. All of the compost produced is sold or used to manufacture finished product so disposal or alternate uses are not necessary.

(7)

(A) Design capacity is 80,000 cyd per year

(B) Flow diagram attached.

(C) Lime is stored in a shed; vermiculite, perlite, and fertilizer are stored on pallets in a shed; peat moss is stored on pallets in the open.

(D) Input materials are measured by 6 cyd bucket loader, processed through a mill and screening system, and mixed and proportioned through a custom mixing system.

(E) Anticipated process duration is nine months.

(F) Not applicable

(G) Each compost pile is monitored for temperature and pH on a weekly basis

(H) Written records show that the compost process is maintained at a temperature of above 104 degrees F for 14 days or longer and the average temperature for that time is higher than 113 degrees F.

(I) A compost turner is used to aerate at necessary intervals.

(J) Not applicable

(K) Storm water runoff is collected in drainage ditches that flow into a drainage pond on the site

(L) Attached

(c)

(1) There are on-site mechanics to fix the equipment when it breaks down (schedule attached). In case of fire there are fire-extinguishers at all locations designated by the fire marshal, and a pond for pumping water if needed by the fire protection agency. The site is located in an industrial park a quarter mile off of the main road with a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side such that noise, odors and traffic conditions are not problems.

(2) Operational requirements outlined in Rule .1406 include the following: Surface water is diverted to drainage pond. Leachate is contained on site. An Operator is on duty at the site at all times that plant is in operation. Access road to site is all-weather construction. Facility

accepts only those solid wastes that it is permitted to receive. Fire extinguishers are provided to control accidental fires and arrangements have been made with the local fire department to immediately provide fire-fighting services when needed. All employees are trained in safety, remedial, and corrective procedures.

(3) Temperature, pH, and salt levels of the compost are taken at weekly intervals. Every 10 cyds of final product is tested for pH and salt levels. Every 10 pallets a growing sample is planted with seed and evaluated in the greenhouse. All tests are repeated on a sample for a three day period. A quality control sheet and samples are kept for each production lot and maintained for a year.

(4) Material is processed in the mill, moved by loader into composting area, where it is turned by the compost turner. Loader is used to fill the mixer with components as required by product formulas. The finished product is packaged for shipment on flatbed trucks or loaded onto bulk trucks.

(7) Product is marketed wholesale to distributors in various regions of the country, either drop-shipped directly to their customers or sent to their warehouses.

.1406 Operational Requirements

(1) The conditions of the permit will be followed and a copy of the permit, plans, and operational reports will be maintained at the site.

(2) There is a wide buffer of trees and grass around the perimeter of the site that prevents erosion.

(3) Ditches line the runway to direct stormwater into a drainage pond on the site.

(4) Leachate is contained as in (3) above.

(5)

(A) Site is fenced and gated to prevent unauthorized entry

(B) An operator is on duty at all times that the site is open. The only area open to the public is the office and the compost loading area in front of the office, all other areas of the site are restricted to employees only.

(C) The access road is a paved, state-maintained road.

(6) The only solid waste received are the pine bark, peanut hulls and cotton gin trash purchased and trucked in to the site. The site is not open to the general public for solid waste disposal.

(7) Safety Requirements

(A) The solid waste received at the site is used for compost, not burned.

(B) Fire extinguishers are located at various locations that have been designated by the Fire Marshal to control accidental fires. Arrangements have been made with the local fire protection agency to immediately provide fire-fighting services when needed by calling 911. The drainage pond on site is available if needed as a source of water for use by the fire protection agency.

(C) Safety training and safety meetings are held regularly, at least once per month, to insure that employees are familiar with safety procedures.

(8) Sign Requirements

(A) There is a sign at the entrance gate stating hours of operation.

(B) There is a sign at the main road, and another at the end of the access road directing traffic to the entrance gate.

(C) Not applicable. The site is not open to the general public for discharging solid waste.

(9) Monitoring Requirements

(A) The compost piles will be monitored weekly for temperature and pH and written records will be kept for five years. Samples will be sent to NCDA every six months for a Waste Analysis Report.

(B) Temperature of the compost will be monitored as in (A) above to ensure that the criteria in (11) below are sufficiently met.

(10) Not applicable

(11) Compost process is maintained at a temperature of above 104 degrees F for 14 days or longer and the average temperature for that time is higher than 113 degrees F.

(12) An alternate plan for meeting the pathogen reduction standard will be followed. Initially, two samples of each of the raw materials and a sample from three compost batches will be submitted to a private lab for fecal coliform analysis. If the results meet the standard of <1000 mpn/gram, then a sample of compost will be submitted for fecal coliform analysis every six months.

(13) Not applicable

(14) Miscellaneous Requirements

(A) The finished compost will meet the classification and distribution requirements of rule .1407 for Grade A compost. It will have no metals present, no man-made inerts present and be pathogen-free.

(B) There are no restrictions on distribution of Grade A compost

(C) The results of tests outlined in .1407 will be submitted to Solid Waste Section

.1408 Methods for testing and Reporting Requirements

(a) The compost will be sampled and analyzed as follows

(1) A composite sample will be analyzed every six months for test parameters for a Type 2 facility as designated in Table 3 of the Rule.

(2) Three individual samples of equal volume will be taken at a depth of two to six feet into the pile from separate areas along the side of the pile. Samples for analysis of metals will be composited and accumulated over a six month period. Samples for analysis of pathogens and nutrients will be a representative composite sample of the compost and will be processed within a period of time required by the testing procedure

(3) Not applicable.

(4) The Division will determine the parameters to be analyzed

(5) Foreign matter content will be determined from an appropriately composite sample.

(b) Record keeping: Records will be kept for five years and will be available for inspection by Division personnel during normal business hours and sent to the Division upon request.

(1) Operational records showing temperature data and quantity of material processed.

(2) Analytical results of compost testing

(3) Quantity, type and source of waste received

(4) Quantity and type of waste processed into compost

(5) Quantity and type of compost produced

(6) Quantity and type of compost removed for use and market.

(c) Annual Reporting: An annual report for the period July 1 to June 30 will be submitted to the Division by August 1 containing:

(1) Facility name, address, and permit number

(2) Total quantity in tons and type of waste received during the year

(3) Total quantity in tons and type of waste processed into compost during the year

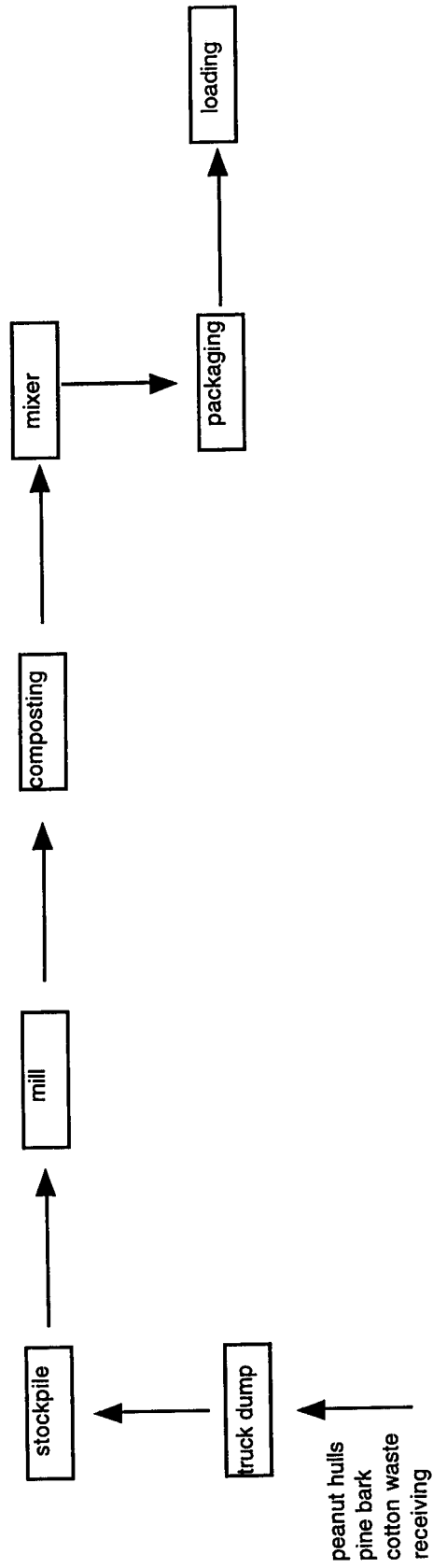
(4) Total quantity in tons and type of compost produced during the year.

(5) Total quantity in tons of compost removed for use with a general description of the market

(6) Monthly temperature monitoring to support Rule .1406

(d) Yearly totals of solid waste received and composted will be reported to the local government or annual recycling reporting

PROCESS FLOW DIAGRAM



BIO-COMP 50/50 Compost Information

Classification:

Bio-Comp 50/50 Compost is classified as Grade A Compost made from pine bark and peanut hulls according to the requirements of the NC Department of Natural Resources.

Recommended Uses:

Bio-Comp 50/50 Compost may be used to improve the soil in lawns, landscape beds, and for planting trees and shrubs.

Application Rates:

Bio-Comp 50/50 Compost may be spread over lawn or landscape bed areas to a depth of about two inches and rototilled to a depth of about four inches. When planting trees or shrubs, Bio-Comp 50/50 Compost may be mixed with an equal part of soil and used to backfill around the roots of the plant.

Restrictions on Usage:

There are no restrictions on the use of Bio-Comp 50/50 Compost.

Manufactured exclusively by:



BIO-COMP, INC.

**"Bio-Composted,
A Natural Choice"**

2116-B BIO-COMP DRIVE • EDENTON, NC 27932 • (800) 624-GROW • (252) 482-8528 • Fax (252) 482-3491

North Carolina
Department of Environment and Natural Resources



Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director

January 28, 2002

Dr. Frank J. Regulski
President
Bio-Comp, Inc.
2116-B Bio-Comp Drive
Edenton, North Carolina 27932

Dear Dr. Regulski:

Enclosed is your permit to operate a Large Type II Compost Facility on Bio-Comp Drive in Chowan County, NC. Your permit number is SWC-21-02.

Please carefully read the permit conditions that are attached to the permit. The operation and maintenance information submitted with the application has been incorporated into the permit.

Mr. Chuck Boyette, Regional Waste Management Specialist, will be responsible for oversight and inspection of the facility and related activities. Mr. Boyette can be contacted at 252-946-6481.

If you have any questions please feel free to contact me at 919-733-0692, extension 253.

Sincerely,

Ted Lyon, Supervisor
Composting & Land Application Branch

cc: Chuck Boyette, Waste Management Specialist, Washington Regional Office

h:cla/compost/permits/21-chowan/Bio-Comp/SWC-21-02-02cl

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-733-4996 \ FAX: 919-715-3605 \ Internet: www.enr.state.nc.us

AN EQUAL OPPORTUNITY \ AFFIRMATIVE ACTION EMPLOYER - 50% RECYCLED / 10% POST CONSUMER PAPER

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT
1646 MAIL SERVICE CENTER, RALEIGH, N.C. 27699-1646

Bio-Comp, Inc.
is hereby issued a permit to operate a
LARGE, TYPE 2 SOLID WASTE COMPOST FACILITY

At Bio-Comp Drive
in Edenton, NC

Permit Number SWC-21-02

In accordance with Article 9, Chapter 130A, of the General Statutes of North Carolina and all rules promulgated thereunder and subject to the conditions set forth in this permit.


James C. Coffey, Acting Chief
Solid Waste Section

1/28/02
Date

Permit Conditions:

1. Operation and maintenance of this facility shall be in accordance with the Solid Waste Compost Rules (15A NCAC 13B, Section .1400), the permit application and the Operation and Maintenance Information submitted with the permit application. Failure to comply may result in compliance actions or permit revocation.
2. This facility shall be operated in such a manner that erosion and runoff from the site shall be controlled. Any leachate or runoff generated at the facility shall be managed in such a manner that it will not be allowed to adversely impact ground or surface waters.
3. Only materials specifically listed in the approved permit application may be managed at this facility without adequate testing and prior approval of the Division of Waste Management.
4. Wastes with low carbon-nitrogen ratios shall be incorporated into the windrows prior to the waste starting to create odors or attract vectors.
5. Compost temperatures shall be monitored at a frequency adequate to assure that the temperature requirements of Rule .1406(10) or (11), as appropriate for the feedstock, are met.
6. Compost produced at the facility shall meet the requirements of Rule .1407 of the Solid Waste Compost Rules and the permit application. If time and temperature requirements are not met, additional testing shall be conducted in accordance with the approved application to demonstrate that the compost product meets the PFRP standard.
7. Testing and reporting shall be conducted in accordance with the requirements of Rule .1408 and the permit application.
8. An annual report of facility activities for the fiscal year July 1 to June 30 shall be submitted to the Division by August 1 of each year. This report shall include the amount of materials composted in tons.
9. Groundwater monitoring wells may be required if there is indication of the potential for groundwater contamination.
10. This permit shall expire on February 1, 2007. Changes in ownership, increase in facility capacity, or receiving additional feedstocks shall require a permit modification.